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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/028,061	12/21/2001	Raymond C. Kurzweil	13151-004001	2935

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EXAMINER	
NGUYEN, KIMBINH T	
ART UNIT	**PAPER NUMBER**
2671	7

DATE MAILED: 06/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/028,061	KURZWEIL, RAYMOND C.	
	Examiner	Art Unit	
	Kimbinh T. Nguyen	2671	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7 and 9-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7 and 9-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This action is responsive to amendment filed 3/29/03.

2. Claims 1-7, 9-32 are pending in the application.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-7, 9-14, 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ritchey (5,495,576) in view of Dutta et al. (6,453,294).

Claim 1, Ritchey discloses capturing motion of a user (records action from a participant 24; col. 18, lines 16-20); capturing audio of the user (receives recorded audio signals from the panoramic 3D audio input system; col. 8, lines 30-36); Ritchey does not teach transforming the audio into a different gender; however, Dutta et al. teaches transforming audio (adding, removing or changing an accent, changing a child's voice, and changing a male voice to female voice to a different speech pattern (col. 3, lines 17-36); and Ritchey teaches animating a character with the motion and transformed audio in real-time (col. 31, line 21 through col. 32 line 2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate transcoding input audio

and/or video taught by Dutta into audio-visual system of Ritchey for transforming male voice to a female voice, because transforms are used for transcoding input text, audio and /or video input, it would provide a choice of audio and/or video output (col. 1, lines 55-57).

Claims 2-7, 10, 12-14, Ritchey teaches displaying the animated character on an output device (col. 15, lines 14-25); attaching multiple motion tracking sensors to areas of the user to track the user's movements (col. 9, lines 33-40); transmitting signals representing the movements from the sensors to a computer (transmitting signals into computer 9; col. 18, lines 54-61); attaching a wireless microphone to the user. (col. 14, lines 40-50); altering pitch characteristics of the audio (col. 31, lines 47-51); applying the motion to a 3D model (3D model 14 is updated of participant actions; col.17, lines 40-51); combining the transformed audio to the 3D model (the sensor recordings are processed by audio processing system 23 and added to existing model; col. 9, lines 37-45).

Claim 9, the rationale provided in the rejection of claim 1 is incorporated herein. In addition, Ritchey teaches generating a 3D model of a character (col. 28, lines 64-66); Ritchey does not teach modifying a gender of the audio; however, Yamamoto teaches modifying (is amplified filtered) a gender of the audio of the user (col.7, lines 25-43). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate modifying a gender of the audio taught by Yamamoto into the virtual reality audio-visual system by Ritchey's method for creating a virtual reality presentation, because it would provide a virtual system for animation sequence

of the character based upon the input voice signal and the expression signal (col. 3, lines 40-41).

Claim 11, the rationale provided in the rejection of claim 3 is incorporated herein. In addition, Ritchey teaches transmitting magnetic fields representing the movements from the sensors (col. 19, lines 26-27; col. 23, lines 35-51).

Claims 21 and 22, the rationale provided in the rejection of claims 1 and 9 is incorporated herein. In addition, Ritchey teaches a computer readable medium (col. 20, lines 32-43).

5. Claims 15, 16 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto (5,923,337) in view of Dutta et al. (6,453,294).

Claim 15, Yamamoto teaches a presentation system (col. 6, line 35; fig. 1), comprising: a motion tracking device (an audience survey camera device 128; col. 6, lines 41-42; fig.1); an audio receiving device (microphone 130; col. 6, line 43); an audio receiver/converter (col. 8, lines 17-26) to transform the audio into audio of different gender; Yamamoto does not teach transform the audio into audio of a different gender; however, Dutta et al. teaches transforming audio (adding, removing or changing an accent, changing a child's voice, and changing a male voice to female voice to a different speech pattern (col. 3, lines 17-36); and Yamamoto teaches a system to produce an animated 3D character from the motion and converted audio (col. 6, lines 46-51). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate transcoding input audio and/or video taught by Dutta into audience system of Yamamoto for transforming male voice to a female voice, because transforms

are used for transcoding input text, audio and /or video input, it would provide a method to alter identifying audio attributes of a participant during interactive communications, whether textual, audio of motion video (col. 1, lines 50-53).

Claims 16 and 18-20,Yamamoto teaches an output device (presentation display monitor 124; col. 6, lines 38-40); the audio receiving device is a wireless microphone 136 (col. 6, lines 45-46; fig. 1), the audio receiver/converter comprise an audio effects digital signal processor (the digitized voice signal is preprocessed by a wave preprocess; col. 8, lines 19-26).

6. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto (5,923,337) in view of Dutta et al. (6,453,294) and further in view of Ritchey (5,495,576).

Claim 17, Yamamoto does not teach eye tracking device; however, Ritchey teaches motion tracking device (eye tracking device) comprises a set of interconnected sensors affixed to the user (head sensor 76a, glove sensors 76b, 76c; col. 25, lines 18-47); a transmitting device (data is transmitted to the computer 9 via conductors 82a and 82b; col. 24, lines 48-55). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the motion tracking device taught by Ritchey into the real-time presentation system of Yamamoto for using motion tracking to create a virtual reality presentation, because using eye sensors which monitors movements of the wearer's eyeballs and it would transmit signals representing movements to computer via conductor for creating virtual reality presentation (col. 25, lines 41-44).

7. Claims 23-30 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ritchey (5,495,576) in view of Yamamoto (5,923,337).

Claims 23, 26, Ritchey teaches detecting motion (detects and tracks a target subject 13 in space; col. 33, lines 8-9); Ritchey does not teach detecting audio; however; Yamamoto teaches detecting a volume change of the voice input over a unit time (col. 3, lines 54-55); modifying a fundamental frequency of the audio (fig. 7A); and Ritchey teaches altering the audio (altering the index of refraction as they change pitch and advance; col. 31, lines 47-51); synchronizing the motion of the user to an animated character; synchronizing the altered audio of the user to the animated character (col. 33, lines 26-32). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate detecting a volume change of the voice (audio) taught by Yamamoto into the virtual reality audio-visual system by Ritchey's method for creating a virtual reality presentation, because it would provide a virtual system for animation sequence of the character based upon the input voice signal and the expression signal (col. 3, lines 40-41).

Claims 24, 25 and 27, the rationale provided in the rejection of claims 2-4 is incorporated herein.

Claims 28-30 and 32, Ritchey discloses the output device is a projector, a projection screen (col. 35, lines 5-7); the output device is a flat panel plasma monitor (col. 35, lines 5-7).

8. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ritchey (5,495,576) in view of Yamamoto (5,923,337) and further in view of Doval et al. (6,476,834).

Claim 31, Doval et al. teaches the output device is an electronic white board (col. 2, lines 43-46). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the devices such as "digital white boards" taught by Doval into a virtual reality audio-visual system and method by Ritchey's teaching for creating a virtual reality presentation, because using electronic white board, it may have a digitizing writing surface and a PC interface that permits transfer of digital information from the white board to a PC. The user can then fax, e-mail or import the information into other programs (col. 2, lines 43-48).

Response to Arguments

9. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

The rejections of claims 1, 9, 15, 21, 22 and 23 have been modified in this Office Action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Kimbinh Nguyen** whose telephone number is **(703) 305-9683**. The examiner can normally be reached **(Monday-Thursday from 7:00 AM to 4:30 PM and alternate Fridays from 7:00 AM to 3:30 PM)**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Zimmerman, can be reached at (703) 305-9798.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Part II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

June 9, 2004

Kimbinh Nguyen

Patent Examiner AU 2671